

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 09/841,644

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Filed: April 23, 2001

Examiner: Saltarelli, Dominic D.

Art Unit: 2623

Confirmation No.: 6427

Attorney's Docket No.: 40004572-0005-002

Mail Stop: Appeal Brief  
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**REPLY BRIEF**

Sir:

This Reply Brief is submitted in support of the instant appeal and in response to the Examiner's Answer mailed February 18, 2009.

The Examiner's Answer included a New Ground of Rejection, which is addressed below. Pursuant to 37 C.F.R. 41.39(b)(2), the appellant hereby requests that the present appeal be maintained.

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### **STATUS OF CLAIMS**

Claims 1-6, 8, 10, 11, 13-16, 18, 20, and 39-42 are pending, have been finally rejected and are the subject of this appeal.

In the Examiner's Answer, claims 1, 2, 5, 6, 8, 11, 15, 16, 18 and 39-42 remain rejected under 35 USC 102(e) as being anticipated by Kikinis (US Patent 5,929,849); claims 10 and 20 remain rejected under 35 USC 103 in view of Kikinis and knowledge in the art concerning ATVEF triggers; and claims 3, 4, 13 and 14 remain rejected under 35 USC 103 in view of Kikinis and Portuesi (US Patent 5,774,666). All of these rejections are addressed in this appeal.

Additionally, the Examiner's Answer included a new ground of rejection of claims 39 and 40 under 35 USC 101 as being directed to non-statutory subject matter.

Claims 7, 9, 12, 17, 19, and 21-38 have been cancelled.

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 39 and 40 recite patentable subject matter under 35 USC 101?
2. Whether claims 1, 2, 5, 6, 8, 11, 15, 16, 18 and 39-42 are patentable over Kikinis?
3. Whether claims 10 and 20 are patentable in view of Kikinis when considered together with knowledge in the art?
4. Whether claims 3, 4, 13 and 14 are patentable in view of Kikinis when considered in combination with Portuesi?

## **ARGUMENT**

### **A. CLAIMS 39 AND 40 RECITE PATENTABLE ARTICLES OF MANUFACTURE.**

The Examiner's Answer has introduced a new ground of rejection directed to claims 39 and 40. Specifically, the Answer contends that because the specification describes certain "signals", claims 39 and 40 (which are directed to tangible machine-readable media encoded with computer-executable instructions) are directed to non-statutory subject matter under 35 USC 101. This conclusion is flawed, however, because the specification does not describe "signals" as machine-readable media.

Paragraph 34 of the specification reads as follows:

Memory devices 238 can include a machine-readable medium that provides (i.e., stores and/or transmits) information in a form readable, e.g., by CPU 234. Memory devices 208 may include a read only memory (ROM), random access memory (RAM), magnetic disk storage media, optical storage media, or flash memory devices. The code or instructions stored in memory devices 238 can be represented by carrier wave signals, infrared signals, digital signals, and by other like signals.

A careful reading of this paragraph reveals that two different points are being made. The first is that a machine-readable medium is a form of acceptable memory device in the context of the present invention. Indeed, various forms of such devices (e.g., ROMs, RAMS, magnetic disks, optical media, or flash memory) are called out as specific examples. The second, separate, point is that the instructions *stored in* these memory devices (and not the devices themselves) can be represented in various fashions.

This distinction between the machine-readable media and the format of the instructions stored in the media is important because what is claimed in the present application, specifically in claims 39 and 40, are the media and not the signals representative of the instructions stored in the media. Claim 39, for example, specifically recites, "A tangible machine-readable medium encoded with computer-executable instructions". Unlike the situation in *In*

*re Nuijten*, where claims to signal *per se* were found to be not patentable,<sup>1</sup> here the claims are directed to the media on which the instructions are encoded and not to a signal representative of the instructions. As indicated above, examples of such media are all articles of manufacture and the specification makes no attempt to equate a signal *per se* with such a medium.

The same court which found Nuijten's signal *per se* to be not patentable recognized that tangible articles or commodities are indeed patentable subject matter.<sup>2</sup> Claims 39 and 40 meet this test inasmuch as what is recited is a tangible machine-readable medium, with certain specified instructions encoded thereon. The mere fact that the specification indicates some media can transmit instructions to a CPU does not negate the patentability of these tangible articles or commodities.

In short, the present application recognizes the distinction between patentable articles of manufacture and non-patentable "signals" and maintains this distinction by claiming only the patentable machine-readable media. While "signals" may be used to represent instructions, neither claim 39 nor 40 recites a signal *per se* and instead are directed to tangible media on which are encoded certain computer-readable instructions. Accordingly, these claims should be deemed to recite patentable subject matter under 35 USC 101.

**B. THE PRESENT CLAIMS ARE PATENTABLE OVER KIKINIS, WHICH FAILS TO TEACH OR SUGGEST THE PRESENTLY CLAIMED METHODS, SYSTEMS AND MACHINE-READABLE MEDIA.**

Independent claims 1, 11 and 39 each recite accessing a repository storing attributes concerning interactive TV triggers to be inserted into a broadcast data stream and determining whether a media pattern recognized by a pattern engine is to be associated with an interactive element. Kikinis does not describe any such activity. Accordingly, the claims are patentable over Kikinis.

Like the Office Actions before it, the Examiner's Answer relies on col. 10, lines 18-67 of the reference for teaching the above-cited elements of the claims. However, the reference does not discuss any repository storing attributes concerning interactive TV triggers, fails to mention accessing such a repository, and does not discuss making any determination as to whether a media pattern recognized by a pattern engine is to be associated with an interactive element.

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<sup>1</sup> 500 F.3d 1346 (Fed. Cir. 2007).

<sup>2</sup> *Id.*

at this, or any other, point. Instead, Kikinis describes pre-broadcast activities<sup>3</sup> which can be used to encode advertisements and the like with URLs pointing to associated web pages:

Kikinis at col. 10, ll. 18-67	Discussion
FIG. 3B is a flow diagram depicting general steps for preparing a TV transmission with a dynamic URL according to an embodiment of the present invention. At step 73 an entity, such as the BMW emblem in the example above, is identified in a scene to be broadcast, to be associated with a dynamic URL.	Here Kikinis begins the discussion of pre-broadcast activities. Notice that these are steps to be taken in "preparing a TV transmission", hence, they cannot be activities concerning a broadcast data stream, as presently claimed, because the broadcast stream does not yet exist.
At step 75 the identified entity is associated with a URL. The URL will in most cases be for a WEB page maintained for the purpose of providing additional information related to the identified entity, or associated with the TV broadcast in a more general way.	Kikinis indicates that once an element in the pre-broadcast media is identified (here an automobile company logo), a URL is associated with that element. Notice that there is no mention of first identifying the logo or other element and then accessing a repository or determining whether anything is to be associated with the logo. Instead, the association of the URL with the logo is apparently predetermined, and there is not need to access a repository, as claimed.  Moreover, the nature of the URL to be associated with the element is apparently fixed and no mention is made of a repository storing attributes of any such URL, as claimed.
At step 77 the location and, in many cases, the areal extent of the identified entity is identified for a broadcast frame relative to frame geometry. That is, the position and extent of the entity on a display screen.	Here Kikinis describes a procedure for determining where on the screen one will be able to invoke the trigger. This is irrelevant from the standpoint of claims 1, 11 and 39.
At step 79 data defining the position and areal extent of the identified entity, and a URL to be associated with the entity, is recorded in a data region separate from the image data for display frame in the data stream for a broadcast. The separate data region is associated with the frame.	Here Kikinis describes inserting the URL into the stored data stream that will be broadcast. Notice that this is not a broadcast data stream, as claimed, because no broadcast is taking place during these operations.
In step 81 steps 1-4 are repeated for all frames	The process repeats, but the process does

<sup>3</sup> At col. 10, ll. 56-57, Kikinis acknowledges that everything describe up to that point relates to pre-recorded and edited image data. In subsequent passages, Kikinis discusses steps to be taken when dealing with live broadcasts.

<p>wherein an entity is to be associated with a dynamic URL. In most cases one entity will be repeated in a relatively large number of frames, so a viewer will have time to react and select a dynamic entity. In a single program or broadcast several entities may be thus associated with a single, or with several URLs.</p>	<p>not anticipate the present claims because there is no repository storing attributes concerning interactive TV triggers to be inserted into a broadcast data stream that is accessed. Indeed, Kikinis is not even describing a process to be used with a broadcast data stream, but instead is discussing a process to be used with pre-broadcast media.</p>
<p>Any entity is a candidate, and there are many possibilities. People may be selected, objects or artifacts, or added icons or images for example. In some cases the entity to be identified and associated with a URL is actually added to the scene by added data in the same region used for the URL. In some embodiments as well, a single (point) position is identified for an entity, and a general area, such as a circular area or a rectangular area is associated with the entity, to be the area which a viewer may select to initiate a dynamic URL.</p>	<p>Here Kikinis states that any entity in the media may be associated with a URL. This does not alter the conclusions concerning the lack of a repository storing attributes concerning interactive TV triggers to be inserted into a broadcast data stream that is accessed, or the fact that Kikinis is not describing a process to be used with a broadcast data stream, but instead is discussing a process to be used with pre-broadcast media.</p>
<p>The invention is not limited to pre-recorded and edited image data. Unique methods may be employed to provide the advantages of the present invention in live broadcasts, such as sports events and the like. In live broadcasts the data between frames, including a URL associated with an image, has to be inserted in substantially real time, or with a minimum delay. This means that the transmission equipment, meaning a camera and associated image and data processing apparatus, has to have a way of knowing which object or person being imaged is to be an URL-associated object or image, and the apparatus has to develop the data to be inserted frame-by-frame.</p>	<p>Here Kikinis explicitly recognizes that all of the above discussion was directed to non-broadcast data streams and that different procedures are needed when dealing with broadcast data streams.</p> <p>These different procedures are addressed below.</p>

From the above table it should be apparent that the rejection of the claims in view of the cited passages from Kikinis lacks merit. Nothing in the cited portion of the reference even suggests the presence of a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream and determining whether a pattern recognized by the pattern

engine is to be associated with a one of the interactive TV triggers. Instead, what is discussed is a process to be used with non-broadcast data streams.

As noted, Kikinis does describe an embodiment where URLs are inserted in live broadcasts. In such situations, one is instructed to equip the object or person depicted in the broadcast with some sort of instrumentality that is capable of informing a separate imaging apparatus of its position and the need to associate a URL. Kikinis at col. 11, ll. 1-7. Several suggestions are made for how to accomplish this. Specifically, Kikinis indicates that infra-red or radio beacon transmitters can be attached to the person or object to be broadcast. Alternatively, bar codes on a player's clothing<sup>4</sup> or UHF or X-ray transmissions can be used. Kikinis at col. 11, ll. 5-7 and 20-28.

Put simply, when confronted with the prospect of inserting a URL into a live broadcast, Kikinis turns to outside instrumentalities (transmitters or bar codes, etc.) to notify some type of imaging equipment of the need to insert a URL. This is vastly different from the presently claimed invention in which patterns *in a broadcast data stream* (not bar codes on a player's uniform or transmissions from a UHF, infra-red, X-ray or other transmitter) are recognized and a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream accessed. Kikinis simply lacks these features of the present claims and, therefore, the rejections of the claims as being anticipated by Kikinis should be reversed.

With respect to claims 10 and 20, the Office Action indicates that the use of ATVEF triggers is well known in the art. Whether or not this is true, even if Kikinis were concerned with the use of ATVEF triggers the above-described differences between the schemes

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<sup>4</sup> The Examiner's Answer states that it is nonsensical to assert that bar codes imprinted on a player's uniform during a live broadcast are read by technicians carrying bar code readers. However, the Examiner offers no alternative for deciphering just how such bar codes are to be used. Kikinis certainly offers no suggestion for how the bar codes are to be read and without an explicit teaching in the reference one is left to guess just how the system would make use of the bar codes. In fact, the Appeal Brief made no mention of any technicians using bar code readers, but simply stated that such readers would be needed in order to decipher the bar codes. At best the Kikinis reference itself indicates only that the bar codes would be read by imaging apparatus, but the only imaging apparatus that is described is a TV camera. Kikinis at col. 11, ll. 20-22. Since TV cameras do not ordinarily read bar codes (and nowhere does Kikinis describe how to modify TV cameras to do so), it seems likely that Kikinis intended that bar code readers would be attached to the cameras, which are quite capable of following the players on the field under the control of properly trained technicians as they must be so operated in order to broadcast the sporting event.



employed by Kikinis and those presently claimed would remain. Therefore, the present claims would still be patentable over Kikinis in light of this knowledge in the art.

**C. THE PRESENT CLAIMS REMAIN PATENTABLE OVER KIKINIS EVEN IN VIEW OF PORTUESI.**

The Examiner's Answer criticizes the Appeal Brief for attacking the deficiencies of the cited references separately. However, because the rejections of the claims find no support in the cited references, one is left with no choice but to point out these deficiencies. The combination of Kikinis and Portuesi cannot obviate the presently claimed invention if neither of the references teaches or suggest subject matter of those claims. Here, both Kikinis and Portuesi are deficient as neither describes a system or method in which in which patterns in a broadcast data stream are recognized and a repository storing attributes concerning interactive TV triggers to be inserted into the broadcast data stream accessed. Accordingly, since both references lack these specifically claimed elements, no combination of these references can render the claims obvious.

## CONCLUSION

For the foregoing reasons, reversal of the Examiner's rejections as set forth in the final Office Action with respect to claims 1-6, 8, 10, 11, 13-16, 18, 20, and 39-42 is respectfully requested. If there are any additional fees due in connection with this communication, please charge Deposit Account No. 19-3140.

Respectfully submitted,

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Dated: April 17, 2009 ✓

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